

ABRASIVE PARTICLES FOR SURFACE POLISHING

Abstract of the Disclosure

Polishing compositions are described that are appropriate for fine polishing to very low tolerances. The polishing compositions include particles with small diameters with very narrow distributions in size and effectively no particles with diameters several times larger than the average diameter. Furthermore, the particles generally have very high uniformity with respect to having a single crystalline phase. Preferred particles have an average diameter less than about 200 nm. Laser pyrolysis processes are described for the production of the appropriate particles including metal oxides, metal carbides, metal sulfides,  $\text{SiO}_2$ , and  $\text{SiC}$ .

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